

## AMENDMENTS TO THE CLAIMS

### **1-10. (Cancelled)**

**11. (Withdrawn)** A light emitting device comprising a semiconductor light emitting element and a phosphor which converts a part of a luminescence spectrum emitted from the semiconductor light emitting element;

wherein said luminescence spectrum of said semiconductor light emitting element is located between a near ultraviolet region and a short-wavelength visible region,

wherein said phosphor is made by adding a red luminescent activator to a base material of a blue luminescent phosphor.

**12. (Withdrawn)** The light emitting device according to claim 11;

wherein the emission wavelength can be adjusted by the added ratio of said red luminescent activator.

**13. (Withdrawn)** The light emitting device according to claims 11;

wherein said semiconductor light emitting element has a main peak wavelength more than 360nm in the ultraviolet region.

**14. (Withdrawn)** The light emitting element according to claim 11;

wherein said phosphor is an alkaline earth metal boric halide phosphor activated by at least Mn and Eu.

**15. (Withdrawn)** The light emitting element according to claim 11;

wherein said phosphor is represented by a general formula of  $(M_{1-x-y}Eu_xM'_y)_2B_5O_9M''$ ,

where M is at least one selected from the group consisting of Mg, Ca, Ba, Sr, M' is at least one selected from the group consisting of Mn, Fe, Cr, Sn,  $0.0001 \leq x \leq 0.5$ ,  $0.0001 \leq y \leq 0.5$ , and M'' is at least one halogen selected from the group consisting of F, Cl, Br, I.

**16. (Withdrawn)** The light emitting device as in one of claim 11; further comprising a phosphor selected from the group consisting of

an alkaline earth halogen apatite phosphor activated by Eu, or Eu and Mn [(Sr, Ca, Ba, Mg, Zn)<sub>5</sub>(PO<sub>4</sub>)<sub>3</sub>(F, Cl, Br, I):Eu, Mn],

an alkaline earth metal aluminate phosphor [SrAl<sub>2</sub>O<sub>4</sub>:Eu, Sr<sub>4</sub>Al<sub>14</sub>O<sub>25</sub>:Eu(Mn), CaAl<sub>2</sub>O<sub>4</sub>:Eu(Mn), BaMg<sub>2</sub>Al<sub>16</sub>O<sub>27</sub>:Eu, BaMg<sub>2</sub>Al<sub>16</sub>O<sub>12</sub>:Eu, Mn, BaMgAl<sub>10</sub>O<sub>17</sub>:Eu(Mn)],

a phosphor of CaO-Al<sub>2</sub>O<sub>3</sub>-SiO<sub>2</sub> including nitride activated by Eu and/or Cr [oxynitride fluoroglass],

a phosphor of M<sub>x</sub>Si<sub>y</sub>N<sub>z</sub>:Eu (where M is at least one selected from the group consisting of Mg, Ca, Ba, Sr, Zn,  $z=2/3x+4/3y$ ),

an yttrium aluminate phosphor activated by cerium,

a rare earth acid sulfide phosphor activated by Eu (La<sub>2</sub>O<sub>2</sub>S:Eu, Y<sub>2</sub>O<sub>2</sub>S:Eu and Gd<sub>2</sub>O<sub>2</sub>S:Eu),

an organic complex phosphor activated by Eu [(Sr, Ca, Ba, Mg)<sub>5</sub>(PO<sub>4</sub>)<sub>3</sub>Cl:Eu, ZnS:Cu, Zn<sub>2</sub>GeO<sub>4</sub>:Mn, (Sr, Ca, Ba, Mg)Ga<sub>2</sub>S<sub>4</sub>:Eu and (Sr, Ca, Ba, Mg)<sub>2</sub>Si<sub>5</sub>N:Eu].

**17. (Currently Amended)** A light emitting device comprising:

a semiconductor light emitting element; and

a phosphor which ~~converts~~ for converting a part of a luminescence spectrum emitted from ~~the said~~ semiconductor light emitting element; wherein:

~~said the~~ luminescence spectrum of said semiconductor light emitting element is located between a near ultraviolet region and a short-wavelength visible region;

said semiconductor light emitting element has a main peak in a range from 360nm to 400 nm; and

~~wherein~~ said phosphor is represented by a general formula of (M<sub>1-x-y</sub>Eu<sub>x</sub>M'<sub>y</sub>)<sub>2</sub>B<sub>5</sub>O<sub>9</sub>M", where M is at least one selected from the group consisting of Mg, Ca, Ba, and Sr, M' is at least one selected from the group consisting of Mn, Fe, Cr, Sn,  $0.0001 \leq x \leq 0.5$ , and  $0.0001 \leq y \leq 0.5$ , and M" is at least one halogen selected from the group consisting of F, Cl, Br, and I ~~an alkaline earth metal borate halide phosphor including at least one element represented by M selected from~~

~~the group consisting of Mg, Ca, Ba, Sr and at least one element represented by M' selected from the group consisting of Mn, Fe, Cr, Sn.~~

**18. (Currently Amended)** The light emitting element according to claim 17<sub>2</sub>,

wherein ~~the~~ a light emitting layer of said semiconductor light emitting element is made of a nitride semiconductor including at least In and Ga.

**19. (Currently Amended)** The light emitting element according to claim 17<sub>2</sub>,

wherein ~~the~~ a light emitting layer of said semiconductor light emitting element is made of a nitride semiconductor including at least Ga and Al.

**20. (Currently Amended)** The light emitting element according to claim 17<sub>2</sub>,

wherein said phosphor is an alkaline earth metal boric halide phosphor activated by at least Mn and Eu.

**21. (Cancelled)**

**22. (Currently Amended)** The light emitting device according to claim 17<sub>2</sub>, further comprising a phosphor selected from the group consisting of:

an alkaline earth halogen apatite phosphor activated by Eu, or Eu and Mn ~~{(Sr, Ca, Ba, Mg, Zn)<sub>5</sub>(PO<sub>4</sub>)<sub>3</sub>(F, Cl, Br, I):Eu, Mn}~~, wherein said alkaline earth halogen apatite phosphor is selected from the group consisting of (Sr)<sub>5</sub>(PO<sub>4</sub>)<sub>3</sub>(F), (Sr)<sub>5</sub>(PO<sub>4</sub>)<sub>3</sub>(Cl), (Sr)<sub>5</sub>(PO<sub>4</sub>)<sub>3</sub>(Br), (Sr)<sub>5</sub>(PO<sub>4</sub>)<sub>3</sub>(I), (Ca)<sub>5</sub>(PO<sub>4</sub>)<sub>3</sub>(F), (Ca)<sub>5</sub>(PO<sub>4</sub>)<sub>3</sub>(Cl), (Ca)<sub>5</sub>(PO<sub>4</sub>)<sub>3</sub>(Br), (Ca)<sub>5</sub>(PO<sub>4</sub>)<sub>3</sub>(I), (Ba)<sub>5</sub>(PO<sub>4</sub>)<sub>3</sub>(F), (Ba)<sub>5</sub>(PO<sub>4</sub>)<sub>3</sub>(Cl), (Ba)<sub>5</sub>(PO<sub>4</sub>)<sub>3</sub>(Br), (Ba)<sub>5</sub>(PO<sub>4</sub>)<sub>3</sub>(I), (Mg)<sub>5</sub>(PO<sub>4</sub>)<sub>3</sub>(F), (Mg)<sub>5</sub>(PO<sub>4</sub>)<sub>3</sub>(Cl), (Mg)<sub>5</sub>(PO<sub>4</sub>)<sub>3</sub>(Br), (Mg)<sub>5</sub>(PO<sub>4</sub>)<sub>3</sub>(I), (Zn)<sub>5</sub>(PO<sub>4</sub>)<sub>3</sub>(F), (Zn)<sub>5</sub>(PO<sub>4</sub>)<sub>3</sub>(Cl), (Zn)<sub>5</sub>(PO<sub>4</sub>)<sub>3</sub>(Br), and (Zn)<sub>5</sub>(PO<sub>4</sub>)<sub>3</sub>(I);

an alkaline earth metal aluminate phosphor selected from the group consisting of {SrAl<sub>2</sub>O<sub>4</sub>:Eu, Sr<sub>4</sub>Al<sub>14</sub>O<sub>25</sub>:Eu(Mn), CaAl<sub>2</sub>O<sub>4</sub>:Eu(Mn), BaMg<sub>2</sub>Al<sub>16</sub>O<sub>27</sub>:Eu, BaMg<sub>2</sub>Al<sub>16</sub>O<sub>12</sub>:Eu, Mn, BaMgAl<sub>10</sub>O<sub>17</sub>:Eu(Mn)}<sub>2</sub>;

a phosphor of  $\text{CaO-Al}_2\text{O}_3\text{-SiO}_2$  including nitride activated by one of Eu and/or Cr  
[oxynitride fluoroglass];

a phosphor of  $\text{M}_x\text{Si}_y\text{N}_z\text{:Eu}$  where M is at least one selected from the group consisting of Mg, Ca, Ba, Sr, Zn, and  $z=2/3x+4/3y$ ;

an yttrium aluminate phosphor activated by cerium;

a rare earth acid sulfide phosphor activated by Eu, wherein said rare earth acid sulfide phosphor is selected from the group consisting of  $(\text{La}_2\text{O}_2\text{S}\text{:Eu}$ ,  $\text{Y}_2\text{O}_2\text{S}\text{:Eu}$  and  $\text{Gd}_2\text{O}_2\text{S}\text{:Eu})$ ; and

an organic complex phosphor activated by one of Eu, Cu, and Mn, wherein said organic complex phosphor is selected from the group consisting of  $(\text{Sr, Ca, Ba, Mg})_5(\text{PO}_4)_3\text{Cl}\text{:Eu}$ ,  $\text{ZnS}\text{:Cu}$ ,  $\text{Zn}_2\text{GeO}_4\text{:Mn}$ ,  $(\text{Sr, Ca, Ba, Mg})\text{Ga}_2\text{S}_4\text{:Eu}$  and  $(\text{Sr, Ca, Ba, Mg})_2\text{Si}_5\text{N}\text{:Eu}$ ];  $(\text{Sr})_5(\text{PO}_4)_3\text{Cl}\text{:Eu}$ ,  $(\text{Ca})_5(\text{PO}_4)_3\text{Cl}\text{:Eu}$ ,  $(\text{Ba})_5(\text{PO}_4)_3\text{Cl}\text{:Eu}$ ,  $(\text{Mg})_5(\text{PO}_4)_3\text{Cl}\text{:Eu}$ ,  $\text{ZnS}\text{:Cu}$ ,  $\text{Zn}_2\text{GeO}_4\text{:Mn}$ ,  $(\text{Sr})\text{Ga}_2\text{S}_4\text{:Eu}$ ,  $(\text{Ca})\text{Ga}_2\text{S}_4\text{:Eu}$ ,  $(\text{Ba})\text{Ga}_2\text{S}_4\text{:Eu}$ ,  $(\text{Mg})\text{Ga}_2\text{S}_4\text{:Eu}$ ,  $(\text{Sr})_2\text{Si}_5\text{N}\text{:Eu}$ ,  $(\text{Ca})_2\text{Si}_5\text{N}\text{:Eu}$ ,  $(\text{Ba})_2\text{Si}_5\text{N}\text{:Eu}$ , and  $(\text{Mg})_2\text{Si}_5\text{N}\text{:Eu}$ .

**23. (Withdrawn)** A light emitting device comprising;

a semiconductor light emitting element of which luminescence spectrum is located between a near ultraviolet region and a short-wavelength visible region,

a first phosphor which converts a part of a luminescence spectrum emitted from the semiconductor light emitting element, said first phosphor being made by adding an activator for red light emission to a base material of a blue emitting phosphor,

a second phosphor which can convert a part of the light emitted from the first phosphor to a light having a wavelength in a range from blue region to red region,

wherein a mixed light of the light emitted from the first phosphor and the light emitted from the second phosphor is outputted, said mixed light having a wavelength within a range of white region.

**24. (Withdrawn)** The light emitting device according to claim 23; further comprising a phosphor selected from the group consisting of

an alkaline earth halogen apatite phosphor activated by Eu, or Eu and Mn  $[(\text{Sr, Ca, Ba, Mg, Zn})_5(\text{PO}_4)_3(\text{F, Cl, Br, I})\text{:Eu, Mn}]$ ,

an alkaline earth metal aluminate phosphor [ $\text{SrAl}_2\text{O}_4\text{:Eu}$ ,  $\text{Sr}_4\text{Al}_{14}\text{O}_{25}\text{:Eu(Mn)}$ ,  
 $\text{CaAl}_2\text{O}_4\text{:Eu(Mn)}$ ,  $\text{BaMg}_2\text{Al}_{16}\text{O}_{27}\text{:Eu}$ ,  $\text{BaMg}_2\text{Al}_{16}\text{O}_{27}\text{:Eu,Mn}$ ,  $\text{BaMgAl}_{10}\text{O}_{17}\text{:Eu(Mn)}$ ],  
 a phosphor of  $\text{CaO-Al}_2\text{O}_3\text{-SiO}_2$  including nitride activated by Eu and/or Cr [oxynitride  
 fluoroglass],  
 a phosphor of  $\text{M}_x\text{Si}_y\text{N}_z\text{:Eu}$  (where M is at least one selected from the group consisting of  
 Mg, Ca, Ba, Sr, Zn,  $z=2/3x+4/3y$ ),  
 an yttrium aluminate phosphor activated by cerium,  
 a rare earth acid sulfide phosphor activated by Eu ( $\text{La}_2\text{O}_2\text{S:Eu}$ ,  $\text{Y}_2\text{O}_2\text{S:Eu}$  and  
 $\text{Gd}_2\text{O}_2\text{S:Eu}$ ),  
 an organic complex phosphor activated by Eu [ $(\text{Sr, Ca, Ba, Mg})_5(\text{PO}_4)_3\text{Cl:Eu}$ ,  $\text{ZnS:Cu}$ ,  
 $\text{Zn}_2\text{GeO}_4\text{:Mn}$ ,  $(\text{Sr, Ca, Ba, Mg})\text{Ga}_2\text{S}_4\text{:Eu}$  and  $(\text{Sr, Ca, Ba, Mg})_2\text{Si}_5\text{N}_8\text{:Eu}$ ].